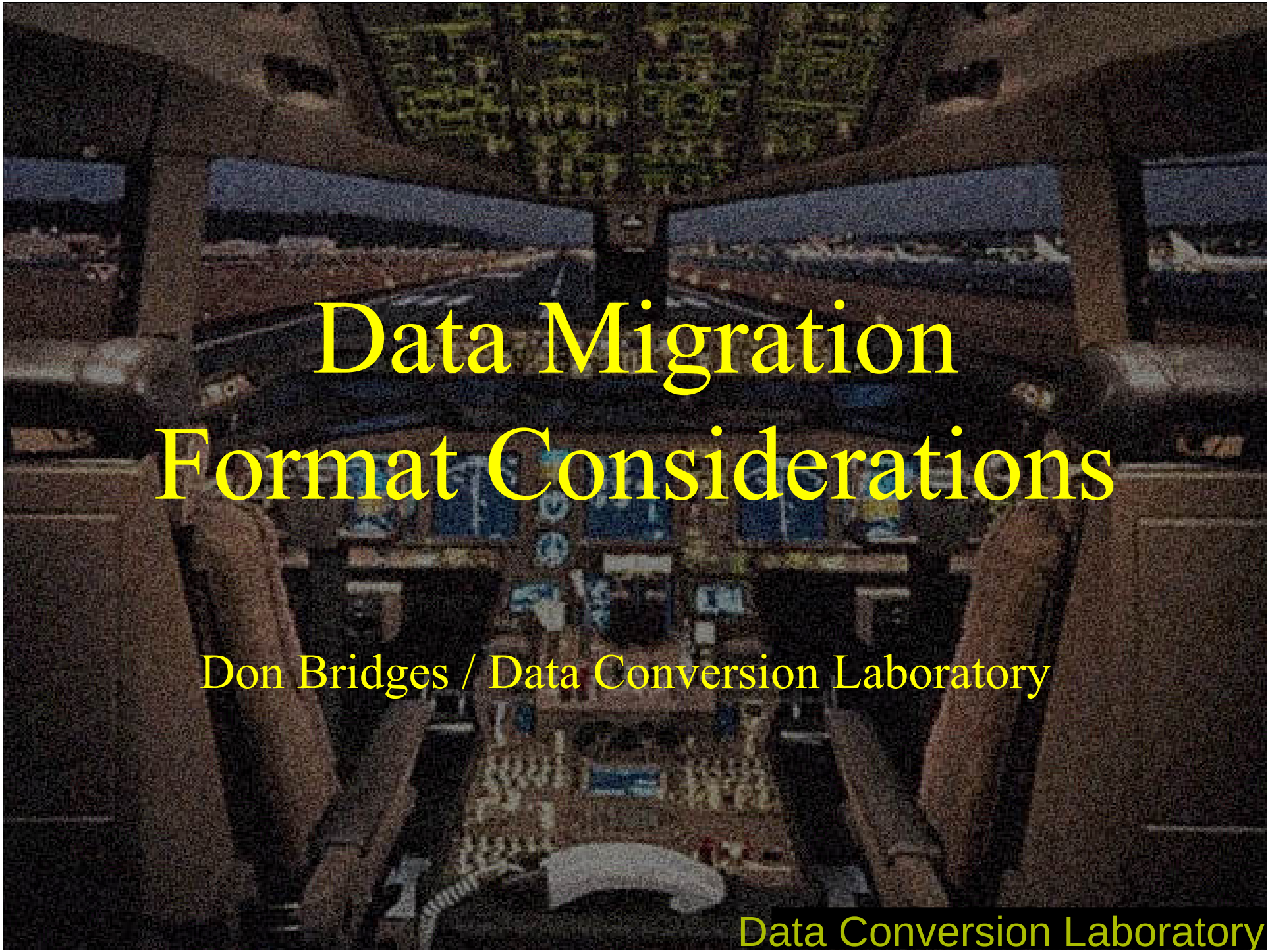
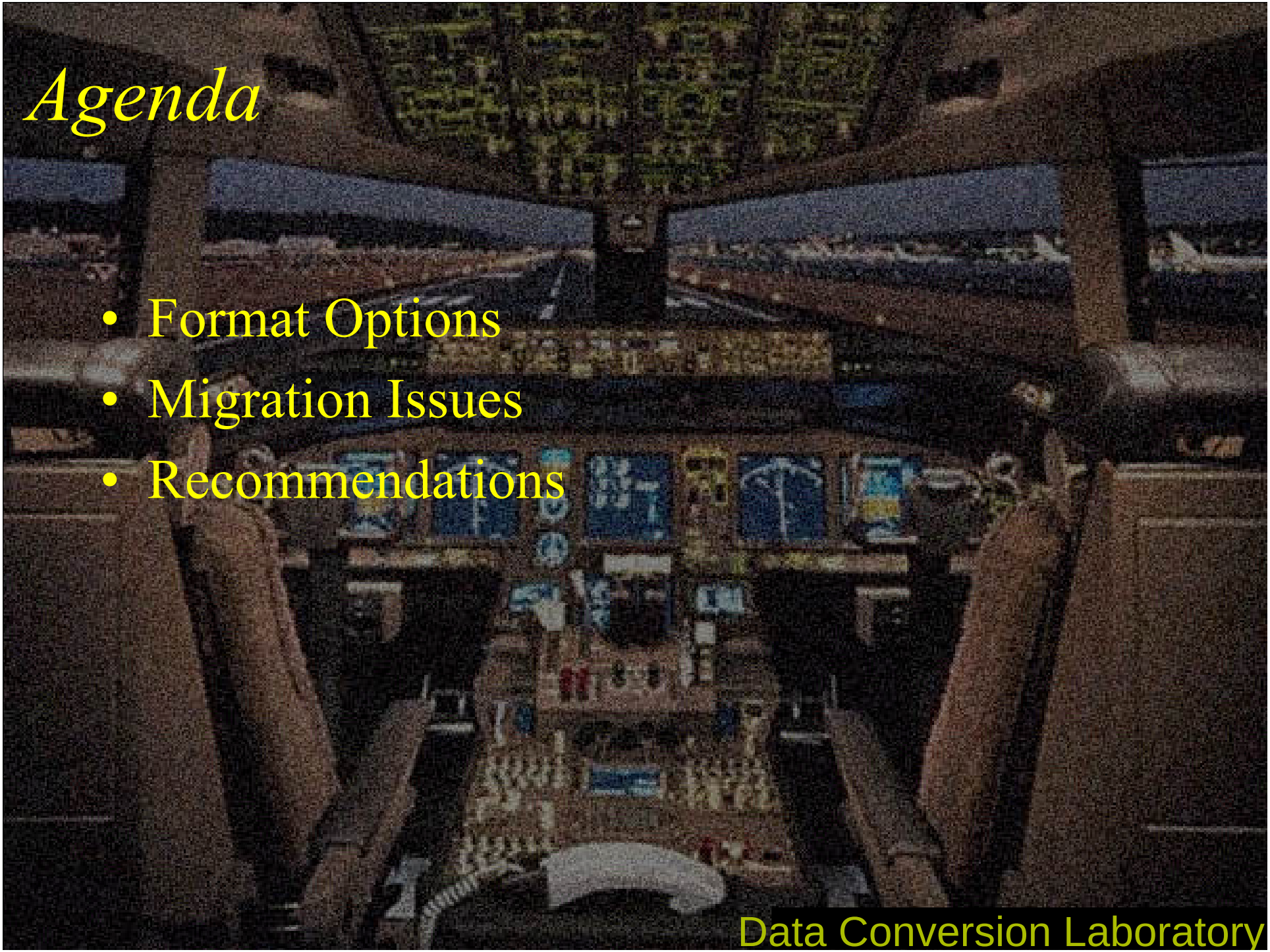


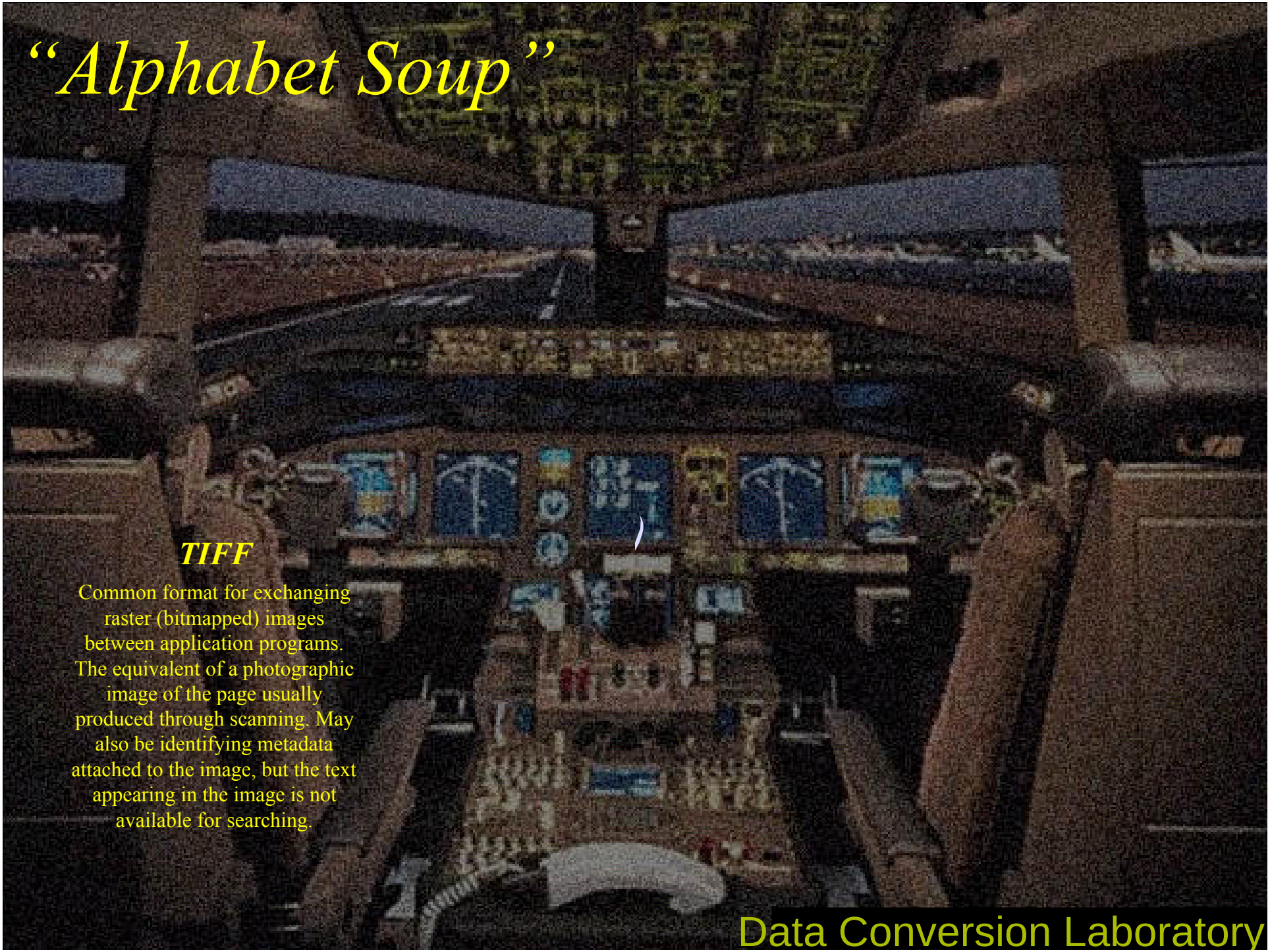
Data Migration Format Considerations

Don Bridges / Data Conversion Laboratory



Agenda

- Format Options
- Migration Issues
- Recommendations



"Alphabet Soup"

TIFF

Common format for exchanging raster (bitmapped) images between application programs. The equivalent of a photographic image of the page usually produced through scanning. May also be identifying metadata attached to the image, but the text appearing in the image is not available for searching.

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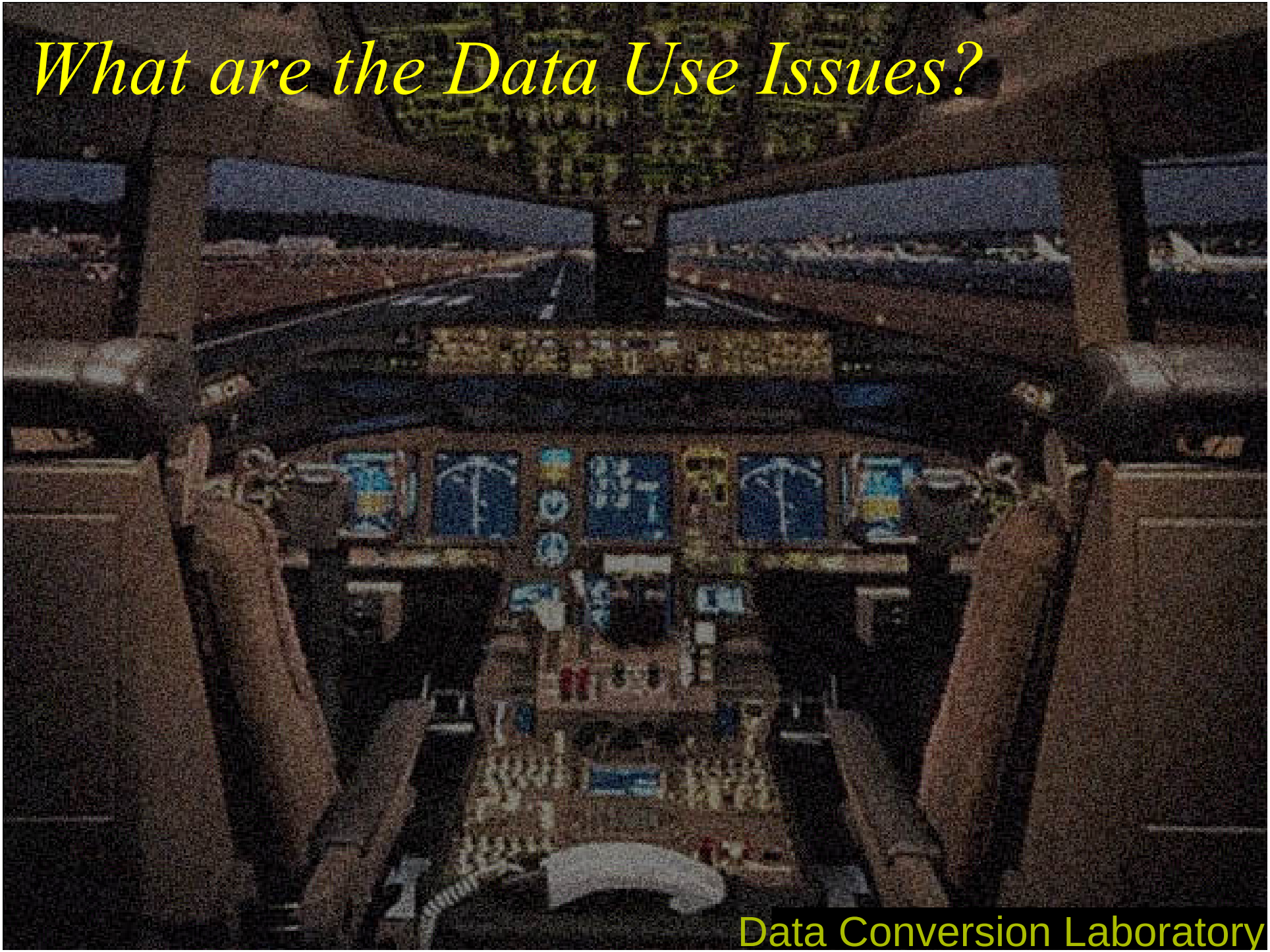
What are the Data Use Issues?



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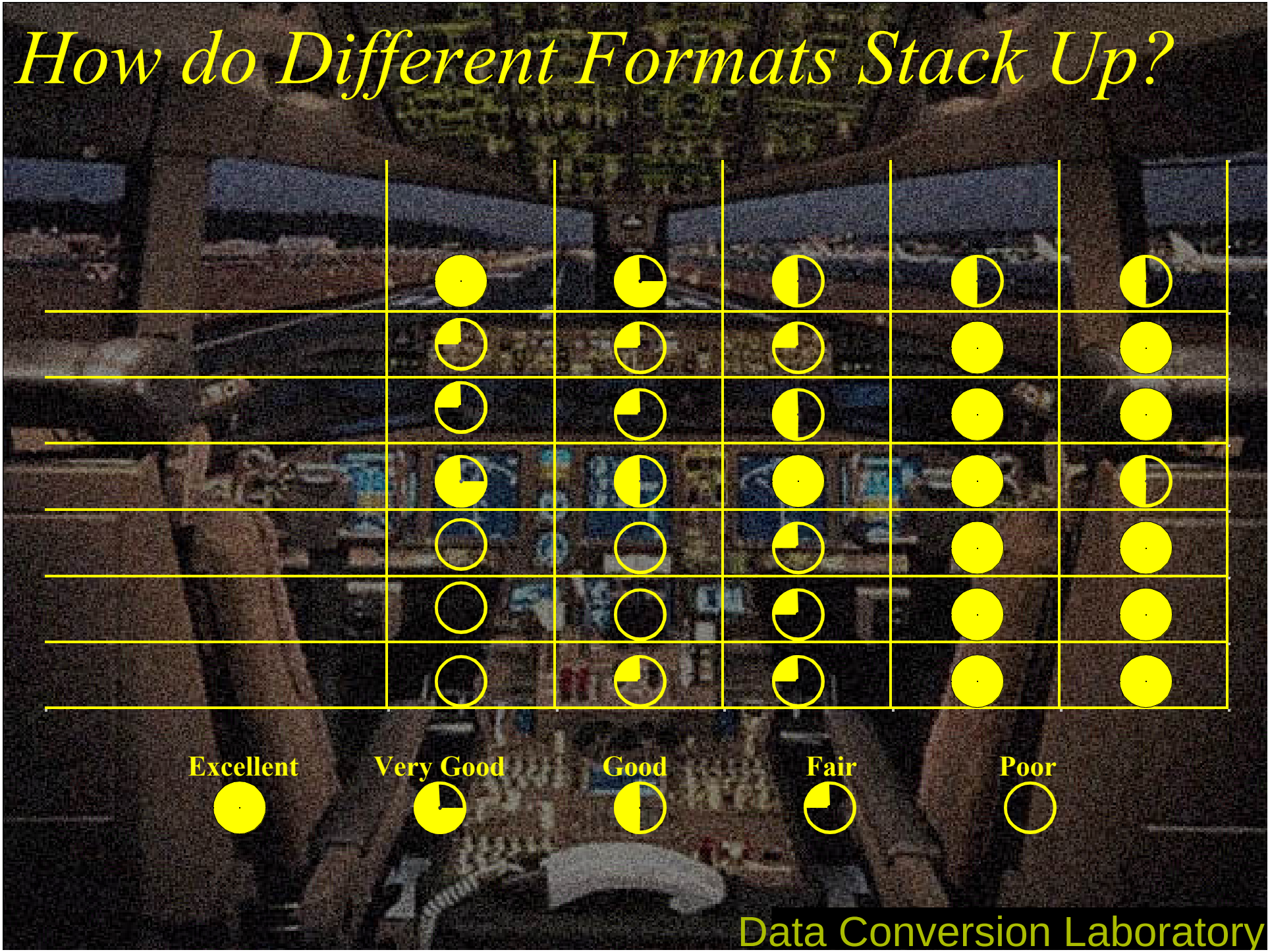
How do Different Formats Stack Up?



Data Conversion Laboratory

DTDs and Schemas

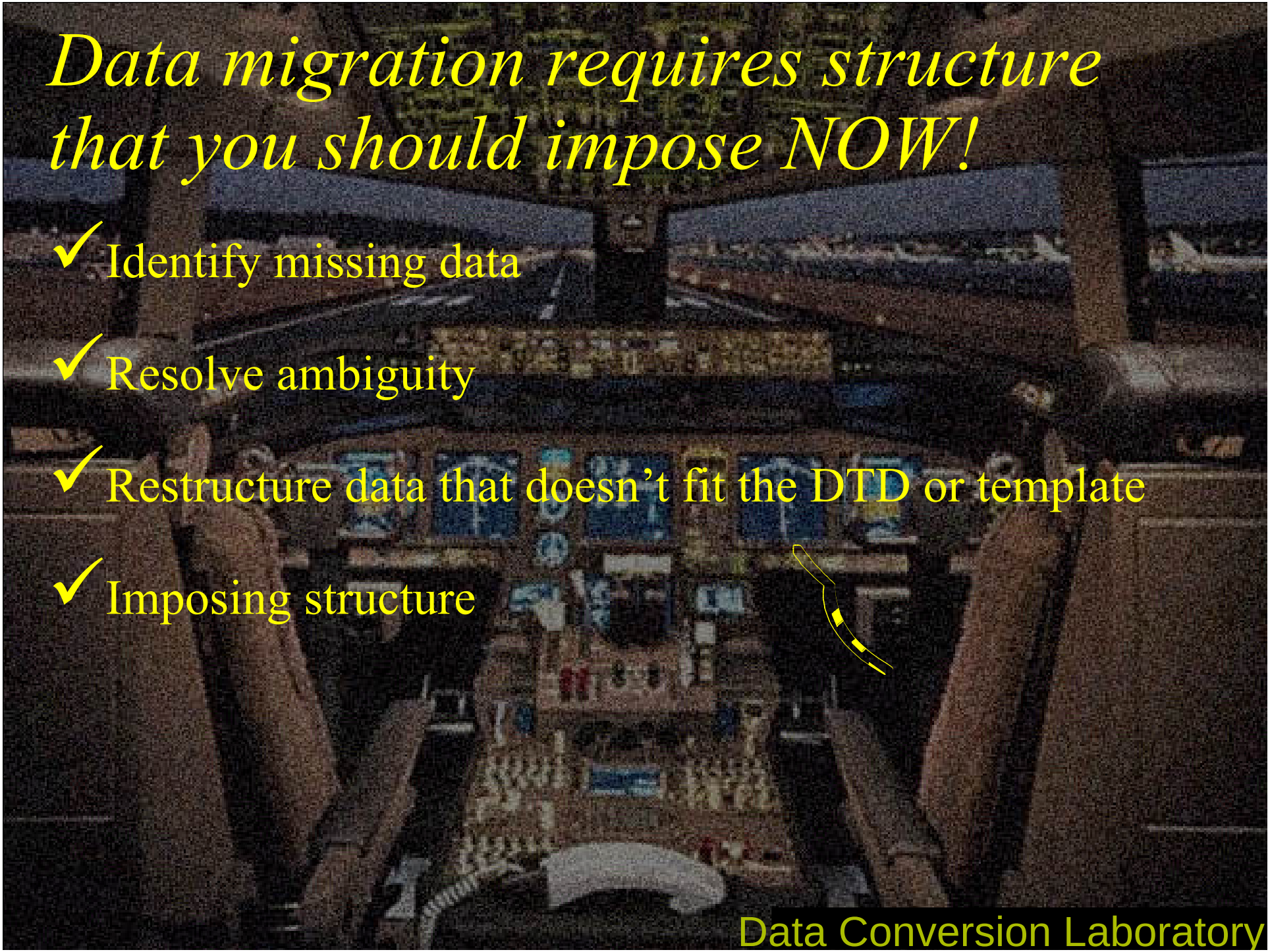
- DTDs define the structure of data
- Schemas add rules to structure definitions
  - primarily currently used for database applications
- Either way, your DTD or Schema should:
  - Account for your legacy data
  - Leverage off of industry standards
    - ATA TICC
  - Meet anticipated internal requirements

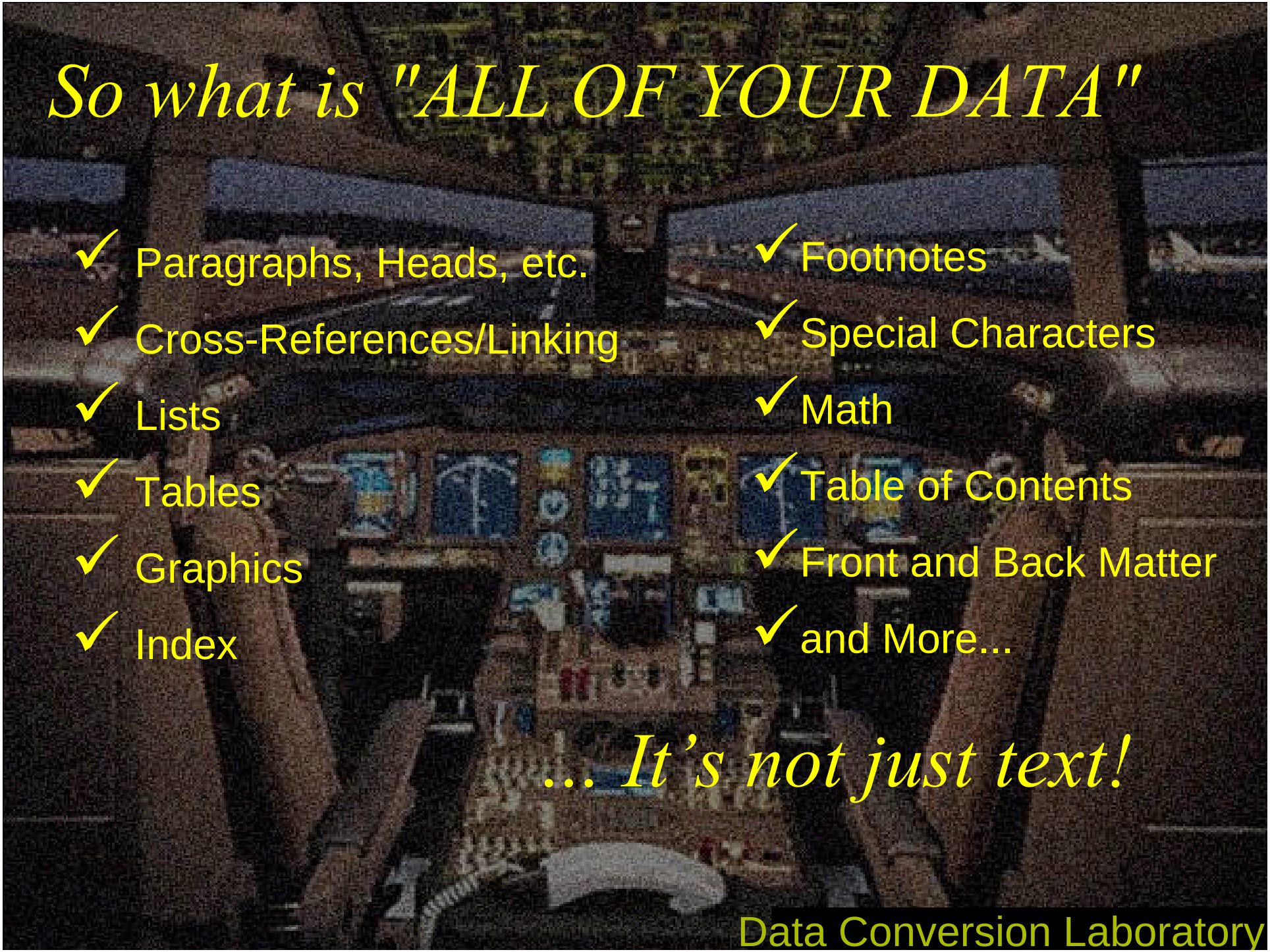
SGML or XML ?

- New to Mark-up languages? Go with XML
  - ~all the advantages of SGML
  - More and Cheaper tools
- Already established in SGML? Stay there
  - You've done the hard work
  - Your tools are are in-place
  - But – make you SGML "XML compliant"
    - SGML data should be XML or near-XML compliant resulting in "painless" conversion to XML

Typical conversion issues

- Quality
  - When you do show it to the world, will it make you proud?
- Time to Market
  - Can the world wait a year for you to be ready?
- Cost
  - Do you know what it really will cost? Are you sure?
- Scalability
  - Can you do thousands or millions of them the way you did your demo?


Data migration requires structure that you should impose NOW!
✓ Identify missing data
✓ Resolve ambiguity
✓ Restructure data that doesn't fit the DTD or template
✓ Imposing structure
Data Conversion Laboratory


So what is "ALL OF YOUR DATA"
✓ Paragraphs, Heads, etc.
✓ Cross-References/Linking
✓ Lists
✓ Tables
✓ Graphics
✓ Index
✓ Footnotes
✓ Special Characters
✓ Math
✓ Table of Contents
✓ Front and Back Matter
✓ and More...
... It's not just text!
Data Conversion Laboratory

The "why don't you just ..." trap

Example: Hyperlinks

- See figure 15.5
- See fig. 15.5
- Refer to figure below
- As illustrated on previous page
- Sentenced to 15.5 years…
- See figure 15.1 in volume II of …

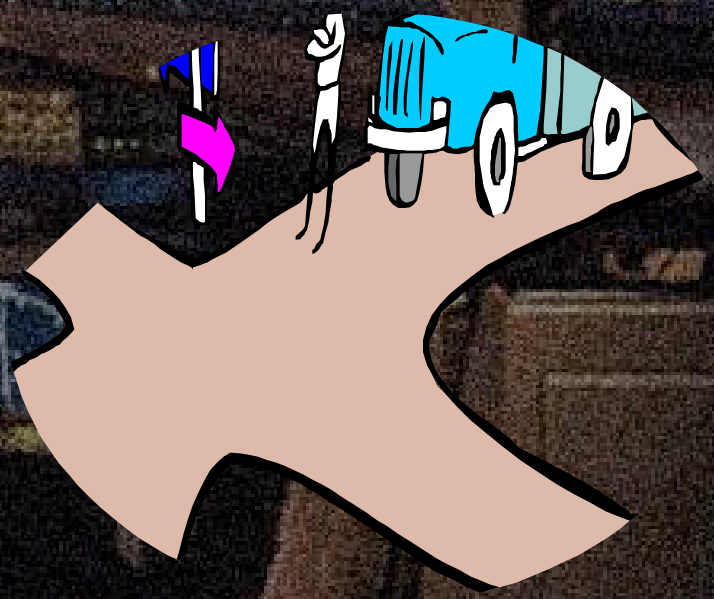
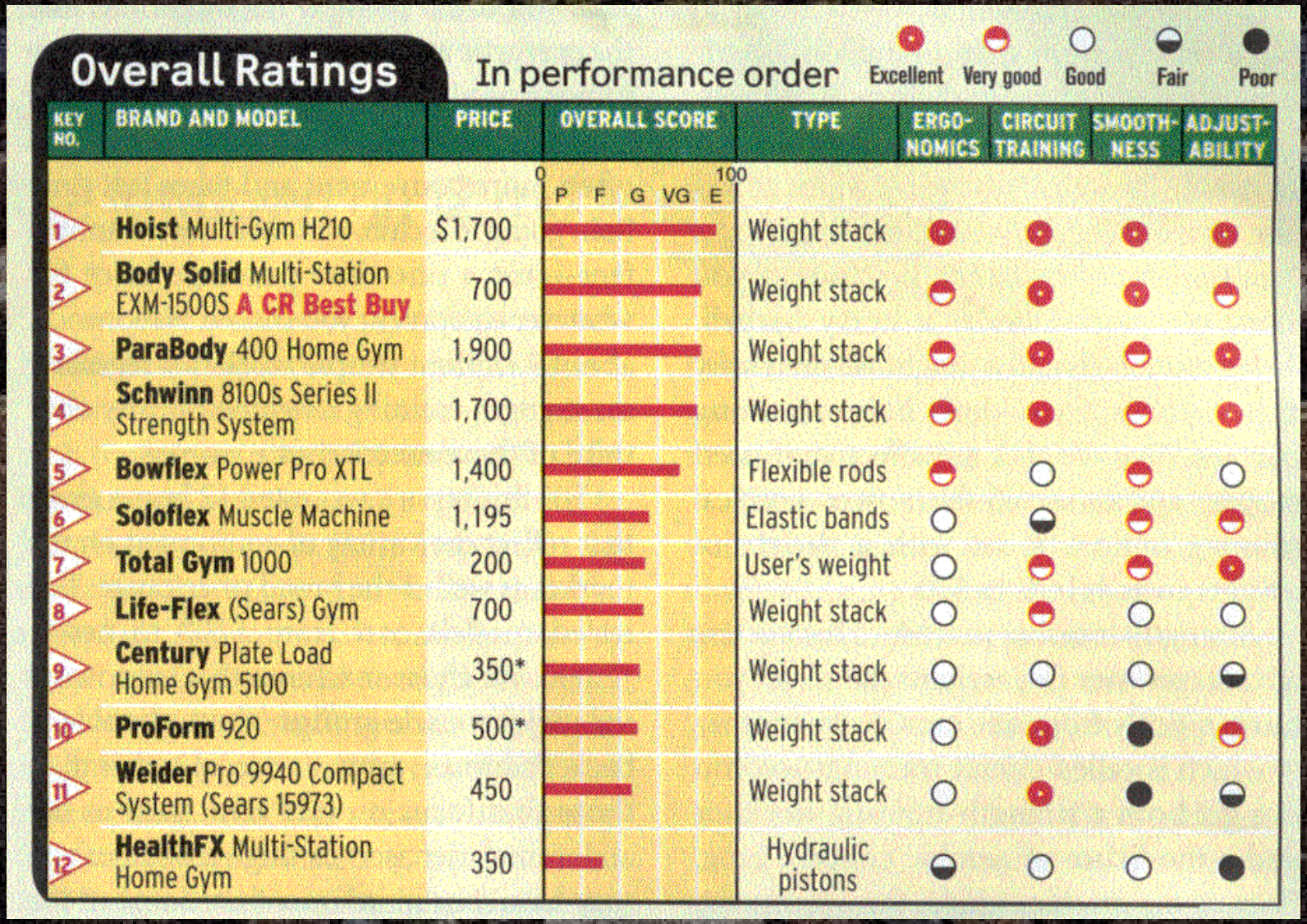


Table Example



Overall Ratings

In performance order

Excellent · Very good · Good · Fair · Poor

KEY NO.	BRAND AND MODEL	PRICE	OVERALL SCORE (0–100; P F G VG E)	TYPE	ERGONOMICS	CIRCUIT TRAINING	SMOOTHNESS	ADJUSTABILITY
1	**Hoist** Multi-Gym H210	$1,700		Weight stack	Excellent	Excellent	Excellent	Excellent
2	**Body Solid** Multi-Station EXM-1500S **A CR Best Buy**	700		Weight stack	Very good	Excellent	Excellent	Very good
3	**ParaBody** 400 Home Gym	1,900		Weight stack	Very good	Excellent	Very good	Excellent
4	**Schwinn** 810Os Series II Strength System	1,700		Weight stack	Very good	Excellent	Very good	Excellent
5	**Bowflex** Power Pro XTL	1,400		Flexible rods	Very good	Good	Very good	Good
6	**Soloflex** Muscle Machine	1,195		Elastic bands	Good	Fair	Very good	Very good
7	**Total Gym** 1000	200		User's weight	Good	Very good	Very good	Excellent
8	**Life-Flex** (Sears) Gym	700		Weight stack	Good	Very good	Good	Good
9	**Century** Plate Load Home Gym 5100	350*		Weight stack	Good	Good	Good	Fair
10	**ProForm** 920	500*		Weight stack	Good	Excellent	Poor	Very good
11	**Weider** Pro 9940 Compact System (Sears 15973)	450		Weight stack	Good	Excellent	Poor	Fair
12	**HealthFX** Multi-Station Home Gym	350		Hydraulic pistons	Fair	Good	Good	Poor

How low do you want to go …

Example: Granularity of Information

Printed Reference:

Actuator, Assembly of
P/N4076300
Implemented by SB 4076A

Example 1:

<part><partname> Flap, Nozzle Convergent </partname>
<partnumber> 4076300 </partname>
<sb> 4076A </sb>
</part>

How low do you want to go …

Example: Granularity of References

Printed Reference:

Actuator, Assembly of
P/N4076300
Implemented by SB 4076A

Example 2:

```
<part hazmat="no">
<partname> Flap, Nozzle Convergent </partname>
<partnumber> 4076200 </partname>
<manf> Pratt & Whitney (/manf>
<material> stainless steel </material>
<coating> acrylic enamel </coating>
<sb> 4076A </sb>
<effective> 89-776 </effective>
</part>
```

Not all lists are created equal …

Example: Numbered Lists vs. Series of Steps

- Do you need to differentiate between a simple numbered list and a series of steps? They appear similar to software, however, they have different meanings
- Structure is different
  - ✓ Steps typically have more rules … use the power of technology

Sequential List Example

Relubricate the following:

1. Flap tracks #1 and #2 in each wing.
2. Landing gear and doors.
3. Baggage door handle shaft.

Steps Example

If gust lock found engaged, proceed as follows:

1. Check control wheel and column for excessive movement.
2. Examine flight control surfaces for distortion.
3. Examine elevator stop bracket for

A picture is worth a thousand words

Example: Graphics Conversion

- Which format should you use?
  - ✓ Raster (TIFF, GIF, JPEG, PNG, etc.) – less expensive, static
  - ✓ Vector (CGM, SVG, IGES, AutoCad, etc.....) – more expensive, hot spotting, editable, re-sizing, less space
- Resolution?
- How good is your source?
  - ✓ electronic or paper?
  - ✓ is source vector?

Keep your heading above water …

Example: Document Headings

- Heading Hierarchy is not always obvious
- Heading Hierarchies are often complex
  - ✓(sometimes going 8 – 10 levels deep)
- Heading levels may not always be consistent within the same document
  - ✓be aware of skipped levels
- Converting multiple documents while trying to normalize headings
  - ✓different levels of granularity
  - ✓Mapping different heading styles

Which way should you go?

Use in-house conversions if...

- Your schedule is flexible
  - You'll need to expect the unexpected
- Materials are not complex
  - You'll be involved with post-conversion clean-up requirements that may vary widely
- Budget is tight & in-house resources available
  - You'll purchase tools that are relatively cheap
- Project is small
  - You'll need about one week of clean-up per ~500 pages (at 5 minutes a page), plus any project set-up efforts.

Which way should you go?

Use out-source conversions if...

- Meeting schedule is critical
  - You'll have a realistic estimate of how long the project will take as well as your options for speeding it up
- Materials are complex
  - Data conversion experts will have experience dealing with the difficult and/or unusual issues
- Budget is well defined
  - You'll have an understanding of the project costs and what the trade-offs are
- Project is large
  - You'll have a process that scales as big as you want

Recommendations

- Select format(s) that meets your expected requirements
  - If a functionality is not required, why pay for it?
  - Rookies should consider XML, veterans stay with SGML
- Define a DTD/Schema that looks backwards and forwards
  - Accounts for condition of legacy data
  - Leverages efforts of industry standards
  - Addresses internal requirements for future use & reuse
- Migrate data based on your situation
  - Your current conversion does not have to be the ‘final’ answer
  - Budget / Quality / Schedule constraints